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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/705,625	11/10/2003	S. Merrill Skeist		4681

7590 05/27/2004
Spellman High Voltage Electronics Corporation
475 Wireless Boulevard
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EXAMINER

NGUYEN, MATTHEW VAN

ART UNIT PAPER NUMBER

2838

DATE MAILED: 05/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/705,625

Applicant(s)

SKEIST ET AL.

Examiner

MATTHEW V NGUYEN

Art Unit

2838

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 22-38 is/are rejected.
- 7) ☒ Claim(s) 11-21 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on _____ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

1. The disclosure should be carefully reviewed and ensure that any and all grammatical, idiomatic, and spelling or other minor errors are corrected.
2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

Claims 1, 9, 10, 28 and 29 are rejected under 35 U.S.C. 102(b) as being anticipated by Baker et al. (U.S. Pat. No. 4,523,269).

With regard to claims 1, 9, 10, 28 and 29, Baker et al. (i.e. Fig. 1) shows an energy transfer multiplexer for controlling the flow of energy through an energy conversion system coupled between an energy source (+E, -E) and an energy load ($\phi A - \phi N$) comprising all the claimed subject matter such as a bi-directional inverter having a first plurality of energy transfer control elements (S1, S2) and a second plurality of energy transfer control elements (SA – SN) coupled by a resonance transfer link having an inductor (Ls) and a capacitor (Cs) to selectively control the direction of energy flow between the first and second plurality of energy transfer control elements, the first plurality of energy transfer control elements having a plurality of switches (S1, S2) each coupled to a separate input of the energy source by a corresponding conductor shunted to ground (13) by a corresponding shunted capacitor (11) and the second plurality of energy transfer control elements having a plurality of switches (SA - SN) each coupled to a

separate input of the energy load by a corresponding conductor shunted to ground (13) by a corresponding shunted capacitor (Co1 – Co3).

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-8, 22-27 and 30-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baker et al. in view of Aiello et al. (U.S. Pat. No. 6,014,323).

With regard to claims 2-8, 22-27 and 30-38, Baker et al. shows an energy transfer multiplexer for controlling the flow of energy through an energy conversion system coupled between an energy source (+E, -E) and an energy load ($\phi A - \phi N$) comprising all the claimed subject matter as discussed above, except for the energy input source being a plurality of input phases, an isolation element being a transformer and an electro-mechanical being an induction machine. Aiello et al. (i.e., Fig. 3), however, discloses an power converter system which comprises a plurality of input phases (a, b, c), a transformer (41) and an induction machine (44). It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize a plurality of input phases, a transformer and an induction machine as shown by Aiello et al. into the energy transfer multiplexer device of Baker et al. for the purpose of giving the device the ability to use in a multiphase input system.

4. Claims 11-21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

None of prior art of record taken alone or in combination shows a plurality of sensors to monitor operation conditions of the signal processing along with their specific arrangements and more particular functions as recited in the claims 11-21 of the application.

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Klaassens (U.S. Pat. No. 4,897,775), Lipo et al. (U.S. Pat. No. 5,841,644) and Inoshita et al. (U.S. Pat. No. 6,091,615) also disclose power converter systems each of which comprises substantial elements as recited in the claims of the instant application.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew V. Nguyen whose telephone number is (571) 272-2081.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (571) 272-2800.

Matthew V. Nguyen
MATTHEW V. NGUYEN
PRIMARY EXAMINER